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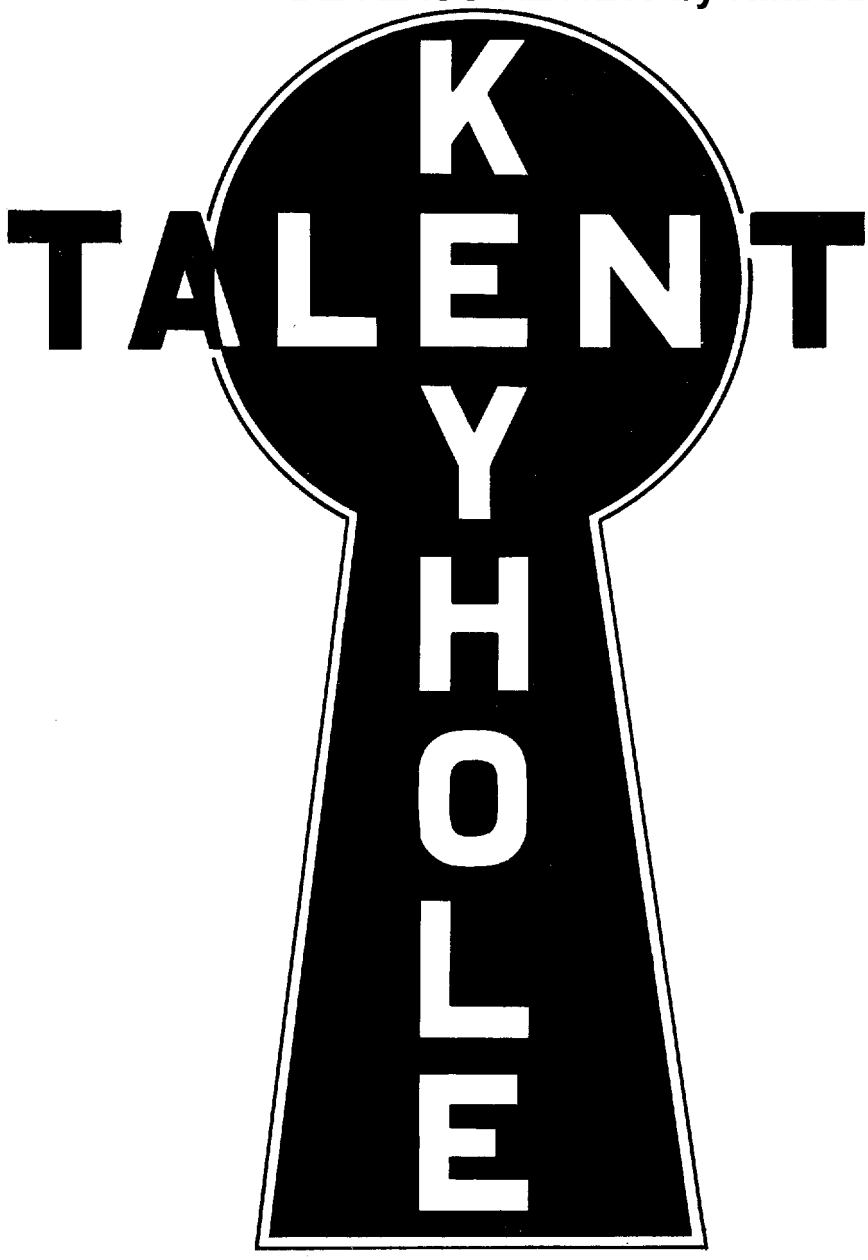

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STUDY TO DETERMINE FUNCTIONAL REQUIREMENTS FOR A MINICARD CAMERA AND SYSTEM TO RECORD SATELLITE PHOTOGRAPHY

INTRODUCTION

For about five years the idea of a Minicard Camera that would have a low reduction ratio lens which could be used to record aerial photography on Minicard Film with minimum resolution losses has been given thought. [redacted] have discussed the idea on a number of occasions over the past several years with [redacted] personnel; each time pointing out the need for a Minicard Camera that would make possible the recording of a higher number of lines per MM, foreseeing the development and ultimate use of aerial photo materials that would themselves be two to three or more times higher in resolution then materials being handled five or more years ago. Also, they could predict aerial photography of much greater scale which would mean that greater resolution capability had to be achieved. The Minicard image areas would have to record only partial frames of aerial photography because the large scale would encompass such large areas that there would be greater practicality in a system which would reduce the large scale photography to more usable smaller segments in Minicards.

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Each year, for the past few years, it has not been possible to get action started toward the manufacture of a low reduction ratio Minicard Camera for various reasons, but finally a contract has been negotiated which will permit such an undertaking. The contract has been set up in a form which first calls for a study which will determine what the camera functions shall be and what general systems application can use a camera having the functions and performance capabilities specified. Accordingly, this study has been made. The original materials to be used as input to the camera have been determined and specifications of most of them have been learned. Much thought has been given to the camera functions, reduction ratios, lens-film combination resolution minimum requirements, platen operation, automatic density determination and exposure setting, display, etc., functional specifications have been established and reported.

The report has been written in two parts. At the outset of the study in mid-July, specifications were available on only the material currently being used. It was not until a few weeks later that additional specifications on other material became available; but in the meantime it was decided to study the problem as it applied to the current material and report this as Part I of the report. Later, when additional material specifications were made available a Part II of the report would be written. For this reason it might be appropriate in reading this report to read Part I rapidly and then read Part II more slowly since the second part does change much of the first part insofar as measurement and format are concerned.

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It has been a pleasure to work on this Project and much appreciation

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STUDY TO DETERMINE FUNCTIONAL REQUIREMENTS
FOR A MINICARD CAMERA AND SYSTEM TO
RECORD SATELLITE PHOTOGRAPHY
- Part I -

OBJECTIVE -

To devise a system for reducing satellite aerial photography to Minicards with retention of as much of the resolution and contrast of the original photograph as possible and to provide a system to produce and use the Minicards. Also, provide a set of Functional Requirements for a Minicard Camera to handle this material.

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